

PTO 05-5742

German Utility Model No. DE 297 02 278 U1

LOCKING AND UNLOCKING CONTROL FOR DRAWERS

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UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. AUGUST 2005
TRANSLATED BY THE MCELROY TRANSLATION COMPANY

FEDERAL REPUBLIC OF GERMANY
GERMAN PATENT OFFICE
UTILITY MODEL NO. 297 02 278 U1

Int. Cl. ⁶ :	A 47 B 88/16 A 47 B 95/00 E 05 C 19/02
Filing No.:	297 02 278.4
Filing Date:	February 10, 1997
Registration Date:	April 3, 1997
Publication in Patent Bulletin:	May 15, 1997

LOCKING AND UNLOCKING CONTROL FOR DRAWERS

[Verriegelungs- und Entriegelungssteuervorrichtung für Schubladen]

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The present invention pertains to a locking and unlocking control device for drawers.

The standard box drawers for writing desks have the usual rollers that are located symmetrically on two opposite sides and move on rails in the inside of the writing desk. However, if a drawer of a writing desk is pushed into the desk, it cannot be held tightly in the closed position unless it is locked with a key in the lock.

Therefore, it is the problem of the present invention to eliminate the disadvantages of the described prior art and to offer an improved locking and unlocking control device.

This problem is solved according to the invention by a locking and unlocking control device that has the properties specified in the claim.

Additional properties and advantages of the present invention will become clear through the following description of preferred embodiments that refer to the attached drawing, which shows:

Figure 1, a perspective view of a locking and unlocking device according to the present invention;

Figure 2, an exploded view of the locking and unlocking device according to the present invention;

Figure 3, a view showing an application of the present invention;

Figure 4, a view that shows the motion of the positioning bar of the rocker arm of the locking bar in the curved track;

Figure 5, a view that shows the positioning bar of the rocker arm of the locking bar that has been moved so that it has engaged with the positioning groove of the positioning track section;

Figure 6, a view that shows the positioning bar as it has been detached from the positioning groove and has been moved into the return track section; and

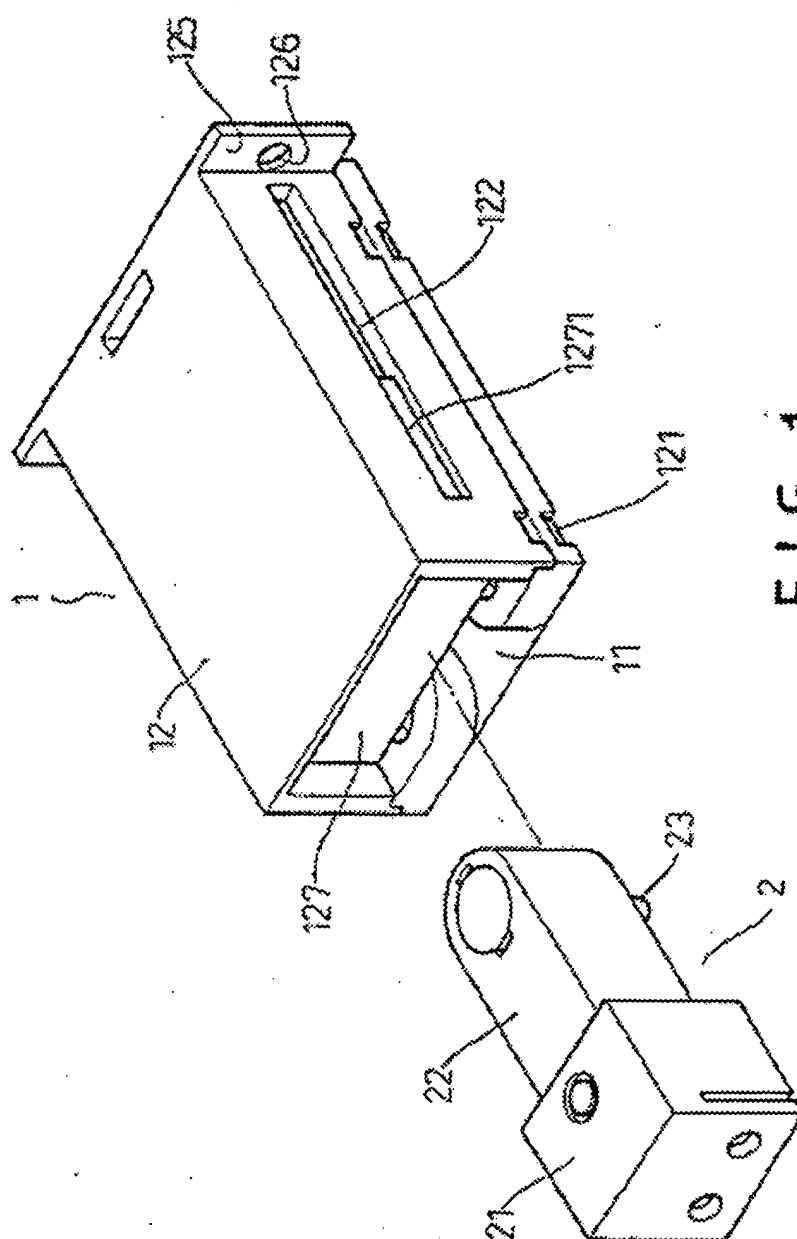
Figure 7, a view that shows the positioning bar that has been moved from the return track section into the beginning side of the forward track section.

As shown in Figures 1 and 2, the device according to the present invention comprises a housing 1 and a locking bar 2. The housing 1 contains a track box 12 and a cover plate 11. The cover plate 11 contains several holes for hooks 111 that are located symmetrically next to two opposing, transverse sides, and also a curved track that is located in the middle of the bottom and that comprises a forward track section 112, a positioning track section 113 and a return track section 114. The positioning track section 113 connects the forward track section 112 to the return track section 114. The depth of the forward track section 112 gradually decreases in the direction of the positioning track section 113. The positioning track section 113 is a V-shaped track that is inclined downward from the forward track section 112 in the direction of the return track section 114, so that a positioning groove 1131 is defined. The return track section 114 extends from the positioning groove 1131 out to the forward track section 112. The track box 12 is a hollow, open frame with an open underside and an open back side, several upward directed hooks 121 that are located at two transverse sides and that are used for hooking into the holes for hooks 111 of the cover plate 11, two longitudinal slide slots 122 at two opposing transverse sides, one backward short bar 123 that lifts off the inside of the upright front wall in the middle, a spring 124 that is mounted to the inside and rests upon the short bar 123, two mounting plates 125 that extend from the upright front wall on both sides in opposite directions, several mounting holes 126 that are designed for installation into the assembly plate 125, and a hollow slide block 127 that is mounted to the inside and is connected to one end of the spring 124. The slide block 127 has two longitudinally running rails 1271 on two opposing transverse sides, each raised relative to and moving in longitudinal slide slots 122, and also a forward short bar 1272 that is connected to one end of the spring 124. The spring 124 is located between the backward short bar 123 and the forward short bar 1272 in order to press the slide block 127 backward. The locking bar 2 is composed of an assembly block 21, a rocker arm 22 that pivots at the assembly block 21, and a positioning bar 23 protruding from the underside of arm 22 at a right angle.

As shown in Figures 1, 2, 3, 4 and 5, the assembly holes 126 of the assembly plate 125 are attached to a not prominent plate of a writing table in order to fix the housing 1 in position, whereby the assembly block 21 of the locking bar 2 is secured to a drawer 31. If the drawer 31 is moved into the interior of the writing table, then the arm 22 is moved into the interior of the housing 12 in order to press the slide block 127 forward against the spring 124 (see Figure 4), whereupon the positioning bar 23 is enabled to move along the forward track section 112 to engage with the positioning groove 1131 of the positioning track section 113 (see Figure 5). Since the rear end of the return track section 14 is located above the front end of the forward track section 112 and the rocker arm 22 can pivot relative to the assembly block 21, then the positioning bar 23 can be moved easily along the forward track section 112 into the positioning track section 113, whereupon it will be forced by the spring force of the spring 124 backward to engage with the positioning groove 1131. In order to unlock the drawer 31, the drawer 31 will be pressed forward in order to press the positioning bar 23 from the positioning groove 1131 to the rear end of the positioning track section 113, as shown in Figure 6. When the drawer 31 is released, the spring 124 immediately returns to its previous shape and force the slide block 127 backwards, as is shown in Figure 7, so that the rocker arm 22 of the locking bar 2 is caused to move backwards, and thus the positioning bar 23 of the rocker arm 22 moves from the positioning track section 113 to the front end of the forward track section 112.

Claim

Locking and unlocking control device, characterized by a track box (12) that is fixed to a not prominent plate of a writing desk and that defines a curved track, a slide block (127) that is moved in the track box (12), a spring (124) located between an upright front wall of the track box (12) and the slide block (127) in order to exert a backward-directed pressure onto the slide block (127), and a locking bar (2) that is secured to a drawer (31) and having a rocker arm (22) with a positioning bar (23) that is moved in the curved track in such a manner that it engages with a positioning groove (1131) in order to lock the drawer (31) and the track box (12) together, whereby the positioning bar (23) of the rocker arm (22) of the locking bar (2) is released from the positioning groove (1131) of the curved track when the drawer (31) is pressed forward and then released, whereupon the drawer (31) unlocks.



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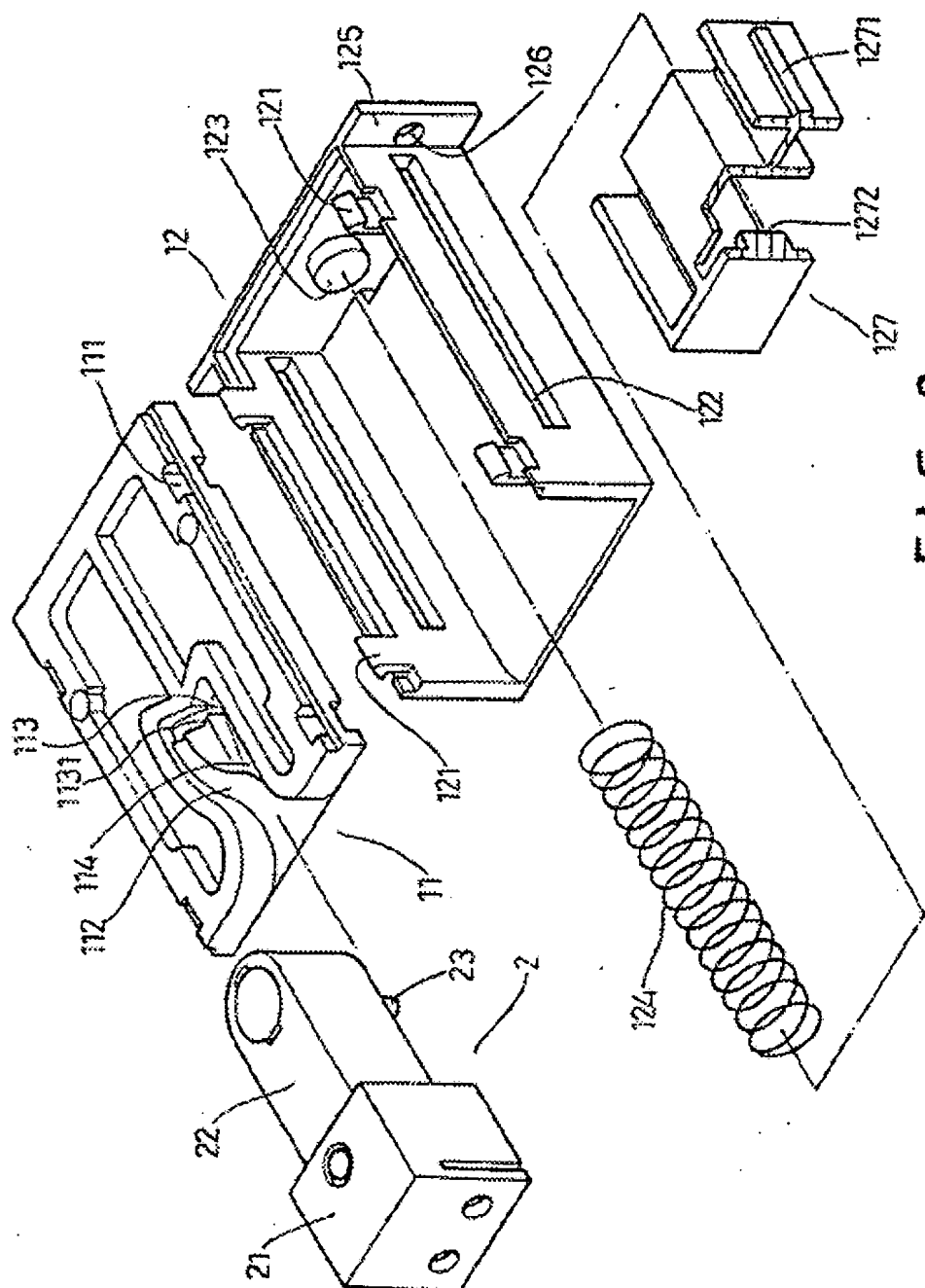


FIG. 2

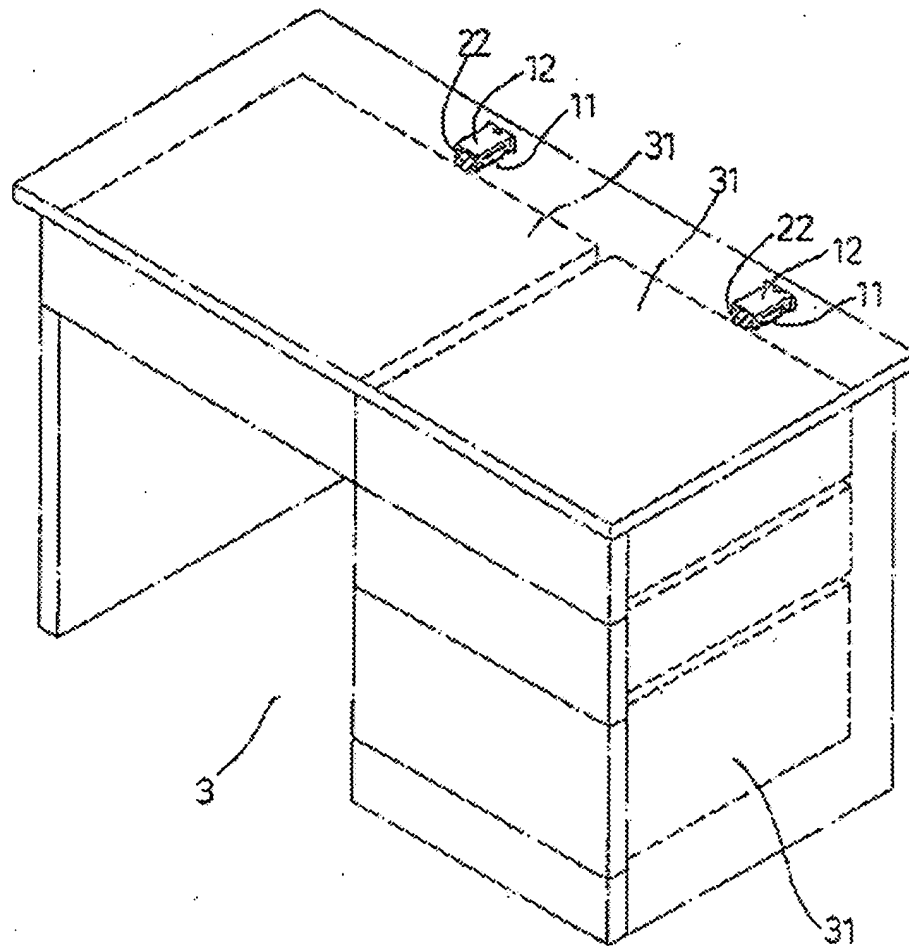
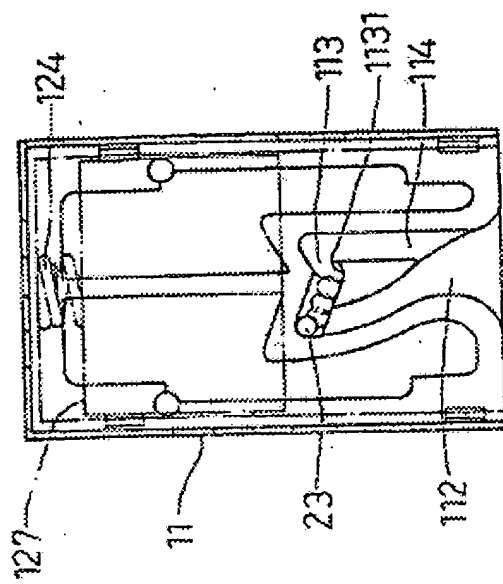
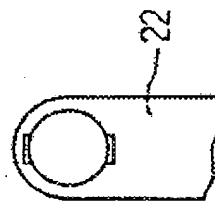
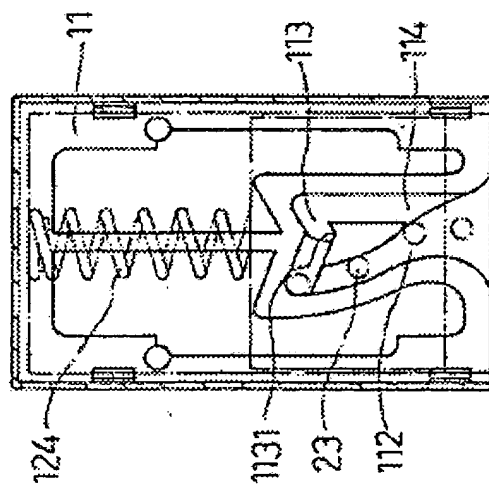


FIG. 3



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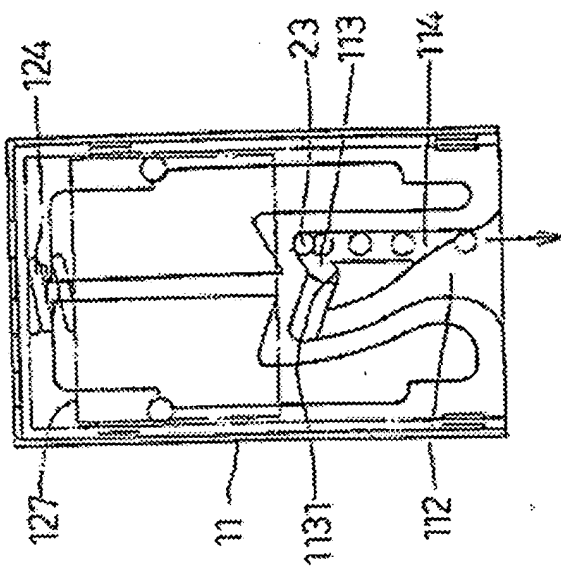


FIG. 6

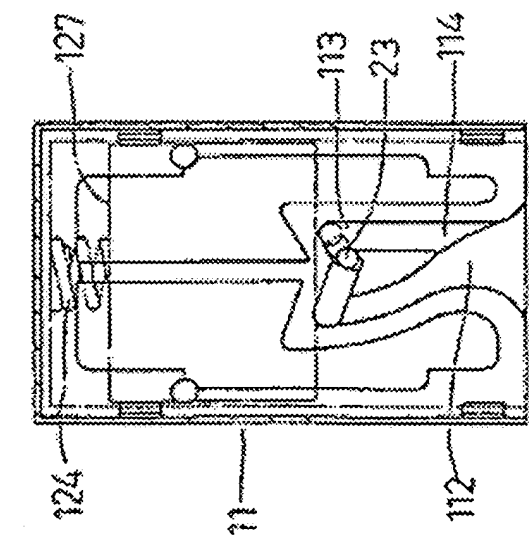


FIG. 7